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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,401	03/24/2004	Jesper Romer Hansen	66386-344-7	3510
25269	7590	03/11/2005	EXAMINER	
DYKEMA GOSSETT PLLC FRANKLIN SQUARE, THIRD FLOOR WEST 1300 I STREET, NW WASHINGTON, DC 20005			GRANT, ALVIN J	
			ART UNIT	PAPER NUMBER
			3723	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/807,401

Applicant(s)

HANSEN, JESPER ROMER

Examiner

Alvin J Grant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/24/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 12 and 15 are objected to because of the following informalities:
Claim 12, line 2 reads "apparatus according to claim." No claim number was provided.
Claim 14, line 2, change "grinded" to read, "ground".
2. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. **Claims 11, 12 and 13-20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. **Claims 11 and 12** provide for the use of an apparatus for measuring material removal during a polishing or grinding process, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 11 and 12 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App.

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1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

6. Regarding claim 13, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1, 5-8, 21 and 22** are rejected under 35 U.S.C. 102(b) as being anticipated by Lenkersdorfer '844.

Regarding claims 1, 6-8, 21 and 22, Lenkersdorfer discloses an apparatus for measuring material removal during a polishing or grinding process, the apparatus comprising: a substantially circular rotatable grinding or polishing pad (**250**), and a sample holder (**170**), and a sample (**125**) with a top surface (**330**), a bottom surface and one or more side surfaces, wherein the sample holder is arranged to hold the bottom surface of the sample in contact with the grinding or polishing pad, the sample holder being connected to a moving device to move the sample to a position at least partially over the rim of the grinding or polishing pad, during at least a part of the grinding or polishing process, the apparatus further comprising a detecting device for sampling, at

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the position at least partially over the rim of the grinding or polishing pad (**Fig. 3**), the distance between a reference mark (**Fig. 4**) and a plane defined by the bottom surface of the sample during the process, and the detecting device for storing and/or comparing the distance between the reference mark and a target area in the sample; the sample holder comprises a goniometric mechanism for three-dimensional adjustment of the sample prior to the polishing or grinding process; the apparatus further comprises a moving device for moving or sliding the sample holder over the surface of the grinding or polishing pad, the moving device is connected to the sample holder in a desired pattern e.g. a radial, a circular, or a rotating pattern (**column 4, lines 83-column 5, line 9**); and the sample holder is adapted to contain more than one sample.

Regarding claim 5, the Examiner takes Official Notice that wafers are known to be between 30 and 40 mm.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 2, 3, 4, 9, 10, 23 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenkersdorfer in view of Meloni '792.

Lenkersdorfer is described above. **Referring to claims 2 and 3**, Lenkersdorfer (discloses a reference mark as indicated in claim 1, but) does not specifically disclose a

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reference point, line or plane. Meloni discloses a CMP measuring apparatus wherein a reference point is used in the determination of exactly the amount of the workpiece has been removed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made a reference point on the sample (workpiece) of Lenkersdorfer to have a reference point as taught by Meloni in order to determine exactly the amount of the workpiece that has been removed.

Referring to claims 4, 9 and 10, Lenkersdorfer does not specifically disclose the use of a computer, combination of two laser displacement sensors, or a laser displacement sensor. Meloni discloses the use of a computer in order to store measurements, a combination of two laser sensors (a confocal displacement meter Model 8010), and a laser displacement sensor in order to measure the distance between the reference point and the polished surface of the workpiece. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a computer, a combination of two laser sensors, and a laser displacement sensor in the apparatus of Lenkersdorfer as taught by Meloni to respectively, store measurements and measure the distance between the reference point and the polished surface of the workpiece.

Referring to claims 23 and 24, Lenkersdorfer does not specifically disclose a cleaning station or a drying station. Meloni discloses a cleaning station and a drying station so as to respectively rid the wafer of the debris resulting from the polishing/grinding effort and rid the wafer of the liquid that resulted from the washing process. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the apparatus of Lenkersdorfer to have a cleaning station and a drying

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station as taught by Meloni so as to respectively rid the wafer of the debris resulting from the polishing/grinding effort and rid the wafer of the liquid that resulted from the washing process.

Allowable Subject Matter

11. **Claims 14-20** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. **Claim 13** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin J Grant whose telephone number is (571) 272-4484. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ajg

A handwritten signature in black ink, appearing to read "Joseph J. Hail, III". The signature is fluid and cursive, with the last name "Hail" being particularly prominent.

Joseph J. Hail, III
Supervisory Patent Examiner
Technology Center 3700